ป็นโบ-19-12 11:42:42 AM

Document Control

Page 1

Item ID: D350-636-011 Accept \*N900040100\* Setup Start Revision ID: Item Name: Skidtube LH Start Qty: 1.00 **Start Date:** 19/07/2012 **Cust Item ID: Required Date:** 02/08/2012 Req'd Qty: 1.00 **Customer:** Reference: Run Process Plan: MLJ (a) Tooling: Date: 17, 07 Approvals: Date: Stop QC: SPC (Y/N): Date: Date: Sequence ID/ Operation Reject Set Up/ Tool ID Reject Tool # Plan Accept Insp. **Work Center ID** Description Qty Qty **Run Hours** Code Number Stamp Draw Nbr **Revision Nbr** D2750 100 0.00 MUJ 12/08/20 DOCUMENT CONTROL \*100\* DC 0.00 Memo

Photocopy blue file and type labels per PPP D350-636-011 CHG 006

NCR:	$\cdot$													
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Work Ord	or.					DISPOSITION			AGAIN	ST DE	PARTMENT	/PROCESS		• <del>-</del>
Part I	Part No.  NCR No.  Root Desc					Rework Scrap Use-as-is Work Order Update	Skid-tube Crosstube Machining Small Fab Thermoforming Finishing Large Fab Composite				Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier			Engineering Quality Quality Other
Root					Descri	otion of work order update	Ιī	Initial	Action		Sign &			
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	Ripples in Bend					Drill Holes	Offset			-				
	<b>├──</b> ┤ ``					Drawing	Out of Calibration							
	Turning Sequence					Finish	Out of Sequence							

Outside Dimensions

Date: \_\_\_\_

DQA:

Wave/Twist in Tube

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

# Work Order ID 87941

July-19-12 11:42:42 AM

\*87941\*

Item ID: D350-636-011 Accept Setup Start \*N900040100\* **Revision ID:** Skidtube LH ·Item Name: **Start Date:** 19/07/2012 Start Qty: 1.00 **Cust Item ID: Required Date:** 02/08/2012 **Req'd Qty:** 1.00 **Customer:** Reference: Run **Process Plan: Tooling:** Date: **Approvals:** Date: Stop Date: SPC (Y/N): Date: Sequence ID/ **Operation** Tool ID Tool # Plan Reject Set Up/ Accept Reject Insp. Work Center ID Qty Description Qty Number Stamp **Run Hours** Code 0.00 110 Skidtubes \*110\* Skidtubes 0.00 Memo 1- Pick D2600-3 Bent Skidtubes 2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750 3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr. 4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting 5- Drill only two fwd step holes using DT9616. Ensure proper positioning. 133 6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-1 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail B) 7- Clecko DT8863B on second side of tube and drill pilot holes for detail B. \*\*\*SECOND SIDE\*\*\* 8-Open up holes for Detail B to 0.375" (4 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open up holes for ground handling and detail C to 0.500" (8 holes per side) 9-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297". 10-Open up holes of Detail A to 0.297" (total of 2 holes per side)

NCR:	Yes	/ No				WORK ORDER NON-	O	NFORI	MANCE / UP	PDATE	QA Closed:	Date:	40 T
Work Ord	er.	·				DISPOSITION				AGAINST DE	PARTMENT	•	
Part I	Cause Date Step Qty					Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstub  Machining Small Fa  Thermoforming Finishin  Large Fab Composit			-	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering . Quality Other
Root					Descri	ption of work order update		nitial	Ad	tion	Sign &	t	
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Inspection Incomplete

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Instructions Incomplete/Unclear

Broken/Damaged

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Burrs

DQA:

Part Incorrect

Part Moved

Part Lost/Missing

Positioned Wrong

Power Loss/Surge

Date:

Weld

Other

Wrong Stock Pulled

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Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Cracks

Cuffs

Heat Treat

Crushed/Crimped.

Inspection Strip in Tube

Torque Waves in Extrusion

July-19-12 11:42:42 AM Item ID: D350-636-011 Accept Setup Start \*N900040100\* **Revision ID:** Skidtube LH . Item Name: **Start Date:** 19/07/2012 Start Qty: 1.00 **Cust Item ID: Required Date:** 02/08/2012 **Req'd Qty:** 1.00 **Customer:** Reference: Run Process Plan: Date: Date: \_\_\_\_\_ Tooling: Approvals: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Tool ID Tool # Plan Reject Reject Set Up/ Accept Insp. Work Center ID Qty Qty Stamp **Description** Code Number **Run Hours** 11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left from bending as per QSI 004 A/R Aluminum Rod batch: M122130 12-Grind welds flush as per Dwg D2750 C B12/07/24 0.00 120 QC10- Inspect visual per QSI004- ground welds QC Memo Quality Control 130 QC5- Inspect part completeness to step on W/O

\*120\*

QC

Quality Control

Memo

										DQA:	Date:	
NCR: Y	res / No				WORK ORDER NON-O	COI	NFOR	MANCE / UPI	DATE			* * *
										QA Closed:	Date:	
Work Orde	or·				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	•
Work Orac					Rework	1		Skid-tube	Crosstube	1	Water Jet	Engineering
Part N	lo.				Scrap	1 .		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
					Use-as-is	1		noforming	Finishing	Rec/Sto	e/Packaging	Other
NCR N	lo				Work Order Update	]		Large Fab	Composite	]	Supplier	
					iption of work order update   Initial   Action							
Root					ption of work order update	1	Initial			Sign &		
Cause	Date	Step	Qty	(	or Non-conformance	Cr	nief Eng	Desci	ription	Date	Verification	QC Inspector
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<u>j</u>	Cracks				Broken/Damaged	<u></u>	4 '	on Incomplete		Part Incorred	<del> </del>	Weld
	Crushed/0	Crimped.		<u> </u>	Burrs		4	ions Incomplete/l	Jnclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs				Contamination	Maintenance			<u></u>	Part Moved		
L	Heat Trea	t			Countersink		Mislabe	led		Positioned Wrong		-
1	Inspection Strip in Tube				Cut Too Short	1	Misread			Power Loss/	Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Quality Control

Work Order ID 87941

July-19-12 11:42:42 AM

\*87941\*

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Item ID: D350-636-011 Accept \*N900040100\* Setup Start **Revision ID:** Skidtube LH Item Name: **Start Date:** Start Qty: 1.00 19/07/2012 **Cust Item ID: Req'd Oty:** 1.00 **Required Date:** 02/08/2012 **Customer:** Reference: Run **Process Plan:** Approvals: Date: **Tooling:** Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Reject Set Up/ Tool ID Tool# Plan Accept Reject Insp. **Work Center ID Description** Qty Qty Number Stamp **Run Hours** Code 140 Chemical Conversion Coat per QSI005 4.1 0.00 \*140\* HandFinish 0.00 Memo Hand Finishing 150 QC7-Inspect Chemical Conversion Coat 0.00 1 0 12-07-2 \*150\* QC 0.00 Memo

		•	-3.
DQA:	Date:	*	

NCR: Yes / No

# **WORK ORDER NON-CONFORMANCE / UPDATE**

. <u>.</u> .										QA Closed:	Date	:	
Work Orde	er:				DISPOSITION		AGAINST DEPARTMENT/PROCESS						
Part No.  Use  NCR No.  Work Order Up							Thern	Skid-tube Machining noforming	Crosstube Small Fab Finishing		Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other	
NCR N	0			·	Work Order Update	┚┃		Large Fab	Composite	<u> </u>	Supplier		
Root					iption of work order update	T in	nitial	Ac	tion	Sign &			
Cause	Date	Step	Qty		or Non-conformance	Chi	ef Eng	Desc	ription	Date	Verification	QC Inspector	
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1	Bending				Bend	$\vdash$	Grain			Ovalized	_	Pressure/Forced	
L	Centre No	ot Conce	ntric to	O/S	BOM/Route	$\vdash$	Hardwa			Over/Under	tolerance	Temperature/Cure	
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_	Crushed/Crimped Burrs						,	ions Incomplete/	'Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled	
_	Cuffs Contamination						Mainte		_	Part Moved			
1	Heat Treat Countersink						Mislabe	led		Positioned V		_	
<u> </u>	Inspection Strip in Tube Cut Too Short						Misreac	l		Power Loss/	Surge	Other	
Ripples in Bend Drill Holes							Offset						
Torque Waves in Extrusion Drawing						$\vdash$		Calibration		<del></del>			
_	Turning Sequence Finish						Out of S	equence					
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July-19-12 11:42:42 AM

Item ID: Revision ID:	D350-636-01 Skidtube LH		· <u></u>	Accept	* S	etup Star Stop	14.7	1* 2*			
Start Date: Required Date: Reference:	19/07/2012 02/08/2012	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*		Cust Item Customer:						
Approvals:	Process Pla	n:	Date:			Date:		R	tun Star Stop	"NK	1* 2*
Sequence ID/ Work Center II  160 *160* Skidtubes Skidtubes	•	side) as per dwg [	D2750.  Soles of Detail B to 0.75	Set Up/ Run Hours 0.00  0.00  round handling to 0.625" (tot	Tool ID	Tool# I		Accept Qty	Reject Qty	-	isp. tamp
		4-Chamfer h (welding ins) 5-Deburr and 6- Prepare tu 7-Bond web A/R Sika 8- Weld spac (welding ins) A/R Alumin 9- At section	d blow out all chips from the for welding, removed D2739 in place as per flex-291 batch:	m inside of tube e alodine as required.  QSI 015 1 22 30 1 21 30 1 22 30 2 and D2743 as per dwg D275 2 m122130 2 spacer to 0.404"		126		B(2/	07/25		

		DQA:	Date:	
NCR: Yes / No	WORK ORDER NON-CONFORMANCE / UPDATE	QA Closed:	Date:	4,

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Work Orde	r:			·	DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	•
Part N	0.				Rework Scrap	Scrap Machining Small Fab			4	Water Jet d. Eng. Coor.	Engineering . Quality
NCR N	0				Use-as-is Work Order Update	Ther	moforming Large Fab	FinishingComposite	Rec/Sto	re/Packaging Supplier	Other
Root				Descri	ption of work order update	Initial	Initial Action		Sign &		
Cause	Date	Step	Qty	(	or Non-conformance	Chief Eng	Des	cription	Date	Verification	QC Inspector
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<u> </u>	Cracks			ļ	Broken/Damaged		tion Incomplete		Part Incorred	<b>⊢</b>	Weld
<u> </u>	Crushed/Crimped.				Burrs	<b>—</b>	tions Incomplete,	/Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
-	$H$ $H^{\infty}$			Contamination	⊢	enance		Part Moved			
-	H			Countersink	Mislab			Positioned V		<del></del> 1	
Ļ				Cut Too Short	Misrea	d	<u></u>	Power Loss/	Surge [	Other	
<u> </u>	H'' H-			Drill Holes	Offset						
-				Drawing	Out of Calibration				· · · · · · · · · · · · · · · · · · ·		
L	Turning Sequence			Finish	Out of Sequence						
	Wave/Twist in Tube				lFolio	l lOutsid	itside Dimensions				

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July-19-12 11:42:42 AM

\*87941\*

Page 6

Item ID: D350-636-011 Accept \*N900040100\* Setup Start **Revision ID:** · Item Name: Skidtube LH **Start Date:** Start Qty: 1.00 19/07/2012 **Cust Item ID:** Req'd Qty: 1.00 **Required Date:** 02/08/2012 **Customer:** Reference: Run Process Plan: Approvals: Date: Tooling: Date: Stop Date: SPC (Y/N): Date: Operation Sequence ID/ Tool # Plan Tool ID Set Up/ Accept Reject Reject Insp. **Work Center ID** Description **Run Hours** Code Qty Qty Number Stamp 11-Spot face ground handling holes section (total of 4 places per side) as per dwg D2750 12-Deburr holes 170 QC10- Inspect visual per QSI004- ground welds \*170\* OC Memo Quality Control 180 QC5- Inspect part completeness to step on W/O 0.00 \*180\* QC Memo Quality Control

DQA:

Date:

NCR:	Yes /	No	WORK ORD

NCR:	Yes	/ No				WORK ORDER NON-	CON	FORI	VIANCE / UP	DATE	QA Closed:	Date:	
Nork Orde	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
						Rework Scrap		Skid-tube Crosstube Machining Small Fab			Water Jet Prod. Eng. Coor.		Engineering • Quality
NCR 1	lo.		]						re/Packaging Supplier	Other			
Root					Descri	ption of work order update	In	nitial	Act	tion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Chi	ef Eng	Desc	ription	Date	Verification	QC Inspector
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rocess upplier raining napproved												·	
		,				F	AULT	CATE	GORY				
Landi	Landing Gear  Bending Centre Not Concentric to O/S Cracks Crushed/Crimped. Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend				General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes	Grain Hardware Inspection Incomplete Instructions Incomplete Maintenance Mislabeled Misread Offset			Unclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ssing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other	
		Torque Wa		xtrusior	` <u> </u>	Drawing Finish	-		alibration				
ļ	_	_	•	Turning Sequence Finish Out of Sequence Outside Dimensions								<u> </u>	

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

July-19-12 11:42:42 AM D350-636-011 \*N900040100\* Item ID: Accept Setup Start **Revision ID:** · Item Name: Skidtube LH Start Date: 19/07/2012 Start Qty: 1.00 **Cust Item ID: Required Date:** 02/08/2012 **Rea'd Oty:** 1.00 **Customer:** Reference: Run Process Plan: **Tooling:** Approvals: Date: Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Tool ID Tool # Plan Set Up/ Accept Reject Reject Insp. Work Center ID Qty Qty **Description** Code Number Stamp **Run Hours** 190 Pressure Wash per QSI005 4.3 0.00 1 7/6 12.8.7 \*190\* HandFinish 0.00 Memo Hand Finishing Re-alodine tube as per OSI 005 section 4.1.2.1 do not acid etch. 200 White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum 0.00 \*200\* Powdercoat 0.00 Memo Powder Coating M121481/ OVEN TEMPERATURE: FINISH TIME: 3h00 210 QC3- Inspect Part Finish 0.00 ILH & Al Mosliy 0.00 OC Memo Quality Control Inspect for foreign object per QSI 024

										DQA:	Date:	<u> </u>
NCR:	Yes / 1	lo			WORK ORDER NON-O	COI	NFOR	MANCE / UPD	ATE			4.
										QA Closed:	Date:	
Work Ord	or·				DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
Part I	***************************************				Rework Scrap		!	Skid-tube Machining	Crosstube Small Fab	4	Water Jet d. Eng. Coor.	Engineering .  Quality
NCR I	No				Use-as-is Work Order Update	Large Fab Composite			Rec/Stor	re/Packaging Supplier	Other	
Root				Descri	ption of work order update		Initial	Actio	on	Sign &		
Cause	Dat	e Step	Qty	(	or Non-conformance	Cr	nief Eng	Descri	ption	Date	Verification	QC Inspector
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	Crack	;			Broken/Damaged		Inspecti	on Incomplete		Part Incorred	it [	Weld
	Crush	ed/Crimpe	d.		Burrs		Instruct	ions Incomplete/Ur	nclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs				Contamination		Mainte	enance		Part Moved		
	Heat	reat			Countersink	Mislabeled			Positioned V	Vrong	<b>-</b>	
	Inspe	tion Strin i	n Tuhe		Cut Too Short		Misreac	1		Power Loss/	Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

July-19-12 11:42:42 AM

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Item ID: Revision ID:	D350-636-01	1		Accept	*N900	<u> </u>	100	<b>n</b> *	Setup	Start	*N	S1*	
	Skidtube LH									Stop	*N	S2*	
Start Date: Required Date: Reference:	19/07/2012 02/08/2012	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*		Cust Item Customer:								
Approvals:	Process Plan	n:	Date:	Tooling:	D	ate:		]	Run	Start	*N	R1*	
			Date:	<b>SPC (Y/N):</b>	D	oate:				Stop	*N	R2*	
Sequence ID/ Work Center II		Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Rejo Qty		Reject Number	Insp. Stamp	
220				0.00							. ^		
*220*		HandFinishing						11.7.7	1		H 1)	ulos	,
HandFinish		Memo		0.00				INT	·· 4		<u> </u>	11607	4
Hand Finishing		- 1- Install in	serts as per Dwg D2750										
230				0.00					1	A	1.1	1 ( .	
*230*		HandFinishing						164	, li	ال	U a	logloy	
HandFinish		Memo		0.00									
Hand Finishing		1-Inspect fo	or Foreign Objects										
		2-Spray ins	ide of tube with "LPS-3"	batch: UIA									
		per dwg D2 SIKA FLEX BATCH:	750	arshoes and ground handli	ng hardware as								
		4-assemble ✓ A/R 55-o'ri	o'ring to plug as per dwg ing lube batch: /\ /	D3492 and apply o'ring lu	be								

- 5-Coat all exposed fasteners with "LPS Procyon" batch: /// / 1259 6

NCR:	Yes / No	ı			WORK ORDER NON-O	CO	NFOR	MANCE / UPDATE				•
										QA Closed:	Date	e:
Work Ord	er·				DISPOSITION			AGAINST	DE	PARTMENT	/PROCESS	•
					Rework	1		Skid-tube Crosstube	Γ	]	Water Jet	Engineering .
Part I	No.				Scrap	1		Machining Small Fab		Pro	d. Eng. Coor.	Quality
					Use-as-is	1	1	noforming Finishing	Г	Rec/Stor	re/Packaging	Other
NCR I	No.				Work Order Update	1		Large Fab Composite			Supplier	
Root					ption of work order update	1	Initial	Action		Sign &		
Cause	Date	Step	Qty	(	or Non-conformance	Cł	nief Eng	Description		Date	Verification	QC Inspector
Doc/Data												
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	Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorred	ct	Weld
	Crushed	/Crimped.			Burrs		Instructi	ions Incomplete/Unclear		Part Lost/Mi	ssing	Wrong Stock Pulled
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	Inspecti	on Strip in	Tube		Cut Too Short		] Misread	<u>'</u>		Power Loss/	Surge [	Other
	Ripples	n Bend			Drill Holes		Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

July-19-12 11:42:42 AM

D350-636-011

Accept

\*N900040100\*

Setup Start

**Revision ID:** 

**Start Date:** 

Item ID:

Skidtube LH · Item Name:

**Required Date:** 02/08/2012

Start Qty: 1.00 19/07/2012

**Cust Item ID:** 

**Customer:** 

Reference:

Approvals:

**Process Plan:** 

Date:

**Tooling:** 

Date:

Run

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/ Work Center ID

240

Description QC5- Inspect part completeness to step on W/O

Operation

**Req'd Qty:** 1.00

Set Up/ **Run Hours**  Tool ID

Tool # Plan

Accept Qty Code

Reject Qty

Reject

Insp. Number Stamp

\*240\*

Quality Control

Memo

250

Pick Kit

0.00

Packaging

Memo

0.00

260

Packaging

QC4-100% Inspect kits for completeness

\*260\*

Memo

Quality Control

\*\*\*\*\*\*ensure antiseize is on AN8C21A bolts

NCR:	Yes	/ No				WORK ORDER NON-C	COI	NFORI	MANCE / UP	DATE							
											QA Closed:	Date:					
Work Ord	er:					DISPOSITION		AGAINST DEPARTMENT/PROCESS									
Part	•					Rework Scrap	Skid-tube Crosstube  Machining Small Fab  Thermoforming Finishing			4	Water Jet d. Eng. Coor.	Engineering .  Quality					
NCR I	No.			<del>.</del>		Use-as-is Work Order Update		Thern	Large Fab	Finishing Composite	~ <del></del>						
Root					Descri	ption of work order update		Initial	Ac	tion	Sign &						
Cause		Date	Step	Qty	(	or Non-conformance	Ch	nief Eng	Desc	ription	Date	Verification	QC Inspector				
Doc/Data	Ш																
Equip/Tooling	Ш																
Operator	Ш																
Material	Ш								•								
Setup	Ш								•								
Other	Щ																
Process	$\vdash$																
Supplier	$\vdash \vdash$																
Training	Н												:				
Unapproved	11		<u> </u>	<u> </u>			A111	T CATE	EORY		l						
Landi	na G	ear.				General	AUL	CATE	JORT								
Lanui	ستح	Bending				Bend	Γ.	Grain		<u> </u>	Ovalized		Pressure/Forced				
		Centre No	nt Concer	ntric to (	<sub>2/5</sub>	BOM/Route		Hardwa	re	-	Over/Under	tolerance	Temperature/Cure				
	$\boldsymbol{\vdash}$	Cracks	or comeci	11110 (0 (	), j	Broken/Damaged		4	on Incomplete		Part Incorre	<del></del>	Weld				
	Н	Crushed/0	Crimped		-	Burrs	-	4	ions Incomplete/	Unclear	Part Lost/Mi	<del></del>	Wrong Stock Pulled				
	-	Cuffs				Contamination		Mainte		-	Part Moved		]				
	$\vdash$	Heat Trea	t			Countersink		Mislabe			Positioned V	Vrong					
		Inspection		Tube	<u> </u>	Cut Too Short		Misread			Power Loss/		Other				
		Ripples in				Drill Holes		Offset		<u> </u>	·	- <b>L</b>	•				
		Torque W		xtrusior	,	Drawing		Out of 0	Calibration								
		Turning Se	equence			Finish	Out of Sequence										

Outside Dimensions

DQA:

Date:

Wave/Twist in Tube

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Insp.

July-19-12 11:42:42 AM D350-636-011 Item ID: Accept Setup Start \*N900040100\* **Revision ID:** Skidtube LH · Item Name: **Start Date:** 19/07/2012 Start Qty: 1.00 Cust Item ID: **Required Date:** 02/08/2012 Req'd Qty: 1.00 **Customer:** Reference: Run Date: **Process Plan:** Tooling: Approvals: Date: QC: Date: SPC (Y/N): Date: Operation Reject Sequence ID/ Tool ID Tool # Plan Accept Reject Set Up/ **Work Center ID** Description Qty Qty Number Stamp **Run Hours** Code 270 Packaging \*270\* Packaging Memo Packaging Package as per PPP D350-636-011

280

QC21- Final Inspection - Work Order Release

Memo

0.00

QC

0.00

Quality Control

MLJ 12/08/22 MLJ 12/08/27

											DQA:	Date	:
NCR:	Yes /	No				WORK ORDER NON-	CO	NFOR	MANCE / UPI	DATE			
											QA Closed:	Date	:
Work Ord	or:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	,
Work Ord	C1					Rework	7	ŀ	Skid-tube	Crosstube	1	Water Jet	Engineering
Part I	No.					Scrap	1	<b>!</b>	Machining	Small Fab	Pro	d. Eng. Coor.	Quality
			- · <del>-</del> · · · · · · · · · · · ·		-	·			noforming	Finishing	4	re/Packaging	Other
NCR I	No.					Work Order Update	1	Large Fab Composite				Supplier	
						<u></u>					- 		
Root					-	otion of work order update	1	Initial		tion	Sign &		
Cause	,	Date	Step	Qty	(	or Non-conformance	Cł	nief Eng	Descr	ription	Date	Verification	QC Inspector
Doc/Data	Ш												
Equip/Tooling													
Operator	Ш												
Material	Ш												1
Setup									'				
Other													
Process	Ш												
Supplier	Щ												
Training													İ
Unapproved											<u> </u>	i	
				_			AUI	LT CATE	GORY	<del> </del>		·- · · · · · · · · · · · · · · · · · ·	
Landi	ng Gea					General	_	1 .		Γ	<b>1</b>	_	<b>–</b>
	_	nding				Bend		Grain		ļ	Ovalized	-	Pressure/Forced
	$\vdash$		t Concer	ntric to (	D/S	BOM/Route	<u> </u>	Hardwa		<u></u>	Over/Under	<del> </del>	Temperature/Cure
		acks			_	Broken/Damaged	<u> </u>	4	on Incomplete		Part Incorre	<u> </u>	Weld
			Crimped.		<u> </u>	Burrs	_	4	ions Incomplete/l	Jnclear	Part Lost/M		Wrong Stock Pulled
	Cuffs					Contamination	<u></u>	Mainte			Part Moved		
		at Trea				Countersink		Mislabe		<u> </u>	Positioned V	_	¬ .
	$\vdash$	•	Strip in	Tube		Cut Too Short		Misread	i		Power Loss/	'Surge	Other
	l (Rir	inles in	Rend			Drill Holes	1	Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

## **Picklist Print**

July-19-12 11:42:46 AM

Work Order ID: 87941

D350-636-011

Parent Item Name:

Skidtube LH

\*87941\*

\*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date: 02/08/2012** 

Start Qty: 1.00

Required Qty: 1.00

**Comments:** 

Parent Item:

IPP Rev:I 02.09.25 Rearranged procedure steps KJ

•

IPP Rev:J 06-03-23

As per Rev D

IPP Rev:K 06-07.13

As per dsi9343

EC

IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verf:EC IPP Rev:M 08-04-22 update steps 4, 13 DD verified by:EC

IPP Rev:N 08-09-23 revF as per dwg DD verified by:ec IPP Rev:O 09-02-06 apply antiseize on AN8C21A bolts as per PAR09-010

DD verf:EC

IPP Rev:P 10.06.22 revise

seq110 DD verf:EC

IPP Rev:Q 10.10.01 as per IIN revH

DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch		Primary Location	Last Location	Route Seq ID	Unit of Measure		Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
*D3492-1 *D3492-1*	-	Manufactured	No			230	Each	149.0000	**	8	(2)	081	4
				Location FP002 FP-A	69531 74444 76235 83259	<u>Loc</u>	Oty 142 8 2 4 128 7	Loc Code		× &			
D3492-3 *D3492-3*		Manufactured	No			230	Each	199.0000	8 **	8	ızlo	08/16	

Location Loc Oty Loc Code FP-A 199 81967 5 83099 11 83529 75 85461-108

NCR:	Yes /	No				WORK ORDER NON-	COI	NFOR	MANCE / UP[	DATE			,
									•		QA Closed:	Dat	e:
Work Ord	er:					DISPOSITION				AGAINST DE	PARTMENT	PROCESS	· .
	Part No					Scrap Machining Small Fab Use-as-is Thermoforming Finishing Work Order Update Large Fab Composite				Finishing		Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering . Quality Other
Root					Descri	ption of work order update		Initial	Act	ion	Sign &	<del></del>	
Cause	Da	te	Step	Qty	,	or Non-conformance	Ch	nief Eng	Descr	iption	Date	Verification	QC Inspector
Doc/Data												,	
Equip/Tooling		1											
Operator		1											
Material													
Setup		ŀ							}				
Other	Ш										·		
Process	Ш	1											
Supplier		<i>'</i>							}				
Training													
Unapproved	<u> </u>				L		<u> </u>						
							AUL	T CATE	GORY				·- ·- ·- ·- ·- ·- ·- ·- ·- ·- ·- ·- ·- ·
Landi	ng Gear				<del></del>	General	_	7		·	7	r	
	Bend	•			_	Bend	<u> </u>	Grain			Ovalized	1	Pressure/Forced
	<del></del>		Concer	ntric to	o/s	BOM/Route	<u></u>	Hardwa			Over/Under	-	Temperature/Cure
	Crac				<u> </u>	Broken/Damaged	<u> </u>	1 '	on Incomplete	<u> </u>	Part Incorred	- t-	Weld
	<b>⊢</b>		rimped.			Burrs		1	ions Incomplete/U	Inclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs					Contamination		Mainte		<u> </u>	Part Moved		
	$\vdash$	Treat				Countersink		Mislabe			Positioned W	· ·	
	_		Strip in	Tube	<u> </u>	Cut Too Short		Misread		L_	Power Loss/	Surge	Other
	Ripp	es in E	Bend			Drill Holes		Offset				·	
	l ITora	ie Wa	ves in F	xtrusio:	n	Drawing	1	Out of C	alibration				

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

### **Picklist Print**

July-19-12 11:42:46 AM

Work Order ID: 87941

D350-636-011

Parent Item Name: Skidtube LH

\*87941\*

\*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/08/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Parent Item:

Purchased

No

230

Each 360.0000

\*\*

\*NAS1611-010\*

Location Loc Qty Loc Code FP001 360 110915 14 117460 118077 118612 119438 47 121259 121584 2 15 121723 122151 268 250 Each 207.0000

HI Istoghia

NAS1149D0863J

Purchased

Manufactured

No

No

S1149D0863.J\*

WASHER

<b>Location</b>	Lo	oc Qty
ST298		207
118078		34
119307		1
120308		72
121556		100
	110	Each

53.0000

\*\*

Loc Code

\*\*

\*D2744\*

D2744

Location	Loc Qty	Loc Code	
LG002	53		
62715	1	•	
83412	14		/
85506	38		

											DQA:	_ Date	::
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFOR	MANCE / UPI	DATE		<del>_</del>	•
											QA Closed:	Date	): 
Work Ord	or.					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	•
Work Ord	٠٠.					Rework	1		Skid-tube	Crosstube	1	Water Jet	Engineering .
Part I	No.					Scrap	Machining Small Fab			Pro	d. Eng. Coor.	Quality	
	•					Use-as-is	Thern	noforming	Finishing	4	re/Packaging	Other	
NCR I	No.					Work Order Update	Large Fab Composite			]	Supplier		
Root			<del>i                                     </del>		Descri	ption of work order update	Π	Initial	Act	tion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Cr	nief Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling				·					:				
Operator	Ш												
Material													
Setup													1
Other	Ш												
Process				,			1						
Supplier													
Training													
Unapproved													
		· · · · · · · · · · · · · · · · · · ·				F	AUL	LT CATE	GORY				
Landi	ng G	Gear				General		-		F	<b>-</b>	_	_
	-	Bending				Bend		Grain		ļ	Ovalized		Pressure/Forced
	$\boldsymbol{\vdash}$	Centre No	ot Concer	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	<del> </del>	Temperature/Cure
	Ш	Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld
	Ц	Crushed/	Crimped.		<u> </u>	Burrs		-4	ions Incomplete/l	Jnclear	Part Lost/Mi	issing	Wrong Stock Pulled
•	Ш	Cuffs				Contamination		Mainte	nance		Part Moved		
		Heat Trea	t		<u> </u>	Countersink		Mislabe	led		Positioned V	Vrong	-7
Inspection Strip in Tube						Cut Too Short	Misread			Power Loss/	Surge	Other	
		Rinnles in	Rend			Drill Holes		Offset					

Out of Calibration

Outside Dimensions

Out of Sequence

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

July-19-12 11:42:46 AM

Work Order ID: 87941

Parent Item:

D350-636-011

Parent Item Name: Skidtube LH

\*87941\*

\*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/08/2012

Start Qty: 1.00

Required Qty: 1.00

D2600-3-BENT

Manufactured

110

Each 26.0000

\*D2600-3-RFNT\*

Extrusion Bent

<b>Location</b>	Loc	: Qty	Loc Code		
LG		26			
66875		7			
73253		1			
75021		1			
75022		1			
75023		1			
81330		4			
83305		1			
86330		10			
	160	Each	230.0000	8	R

D2743

Crossbolt Spacer

Manufactured

\*\*

<b>Location</b>	Loc Qty	Loc Code	
LG	156		
81965	23		
83262	7		
85459	126		8
LG001	74		~
67766	4		
68251	3		
73403	64		
74445	1		
79517	2		

NCR:	·												
											QA Closed:	Date	e:
Work Ord	er:					DISPOSITION	7		Skid-tube	AGAINST DE	EPARTMENT,	_	
Part I NCR I					·	Rework Scrap Use-as-is Work Order Update		Machining Small Fab Thermoforming Finishing Large Fab Composite			-	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root Cause		Date	Step	Qty		ption of work order update or Non-conformance	1	Initial nief Eng	Acti Descr	ion iption	Sign & Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved													
						<del></del>	AUL	T CATE	GORY			·	
Landi		Bending Centre No Cracks Crushed/O Cuffs Heat Trea Inspection Ripples in Torque W	Crimped. t n Strip in Bend	Tube		General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing		Instruct Mainte Mislabe Misread Offset	ion Incomplete ions Incomplete/U enance eled	Unclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct ssing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled  Other

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

July-19-12 11:42:47 AM

Work Order ID: 87941

Parent Item:

D350-636-011

Parent Item Name:

Skidtube LH

\*87941\* \*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/08/2012

Start Qty: 1.00 Required Qty: 1.00 D2739 Manufactured No 160 Each 15.0000 \*D2739\* 350 1 Beam Location Loc Oty Loc Code LG 15 72155 81508 83448 83548

D3490-3

Cross Bolt Spacer

D3490-1

Cross Bolt Spacer

Manufactured

Manufactured

No

No

160 Each

46.0000

\*\*

Location Loc Qty Loc Code LG001 46 85420 46 160 Each 51.0000

\*\*

Location Loc Qty Loc Code LG 42 81976 85419 40 LG001 9 62450 74875 77042

NCR:	NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE												
											QA Closed:	Date:	
Work Ord	er: _					DISPOSITION	_				EPARTMENT,	·	,
Part No						Rework Scrap Use-as-is Work Order Update	Scrap Machining Small Fab Use-as-is Thermoforming Finishing			Finishing	┥	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering .  Quality  Other
Root		и.			Descri	ption of work order update		Initial	Act	tion	Sign &		
Cause		Date	Step	Qty	(	or Non-conformance	CI	nief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved							-Δ11	LT CATE	GORY				
Landi	ng Ge	ear	<del> </del>		······	General							
		Bending Centre Not Concentric to O/S Cracks Crushed/Crimped. Cuffs			Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled Misread Offset			Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct sissing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other	
		orque W		xtrusio	,	Drawing		-i	Calibration				

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

July-19-12 11:42:47 AM

Work Order ID: 87941

Parent Item:

D350-636-011

Parent Item Name: Skidtube LH

\*87941\*

\*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/08/2012

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-225

Purchased

No

220

Each

2,462.000

\*AI S4-1032-225\*

<b>Location</b>	Loc Qty	Loc Code		
FP-B	2019			
122290	2019			
ST281	420		X 3 8	
108696	146			
110768	62			
118386	55			
118966	68			
121269	89			
ST282	23			
120410	10			
120451	13			
	230 Each	34.0000 1	1	,
		**	A. A	160111

Loc Code

D3793-3

Manufactured

No

12/08/14

\*D3793-3\* Wearshoe

<u>Location</u>	Loc Qty
FP001	34
<u>83394</u>	10
83901	12
87135	12

NCR:	Yes /	No			WORK ORDER NON	-CO	<b>NFORM</b>	MANCE / UPDATE					•
<i>-</i>								•		QA Closed:	D	ate:	
Work Ord	er:				DISPOSITION				_	PARTMENT,			
Part I				<del></del>	Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstube  Machining Small Fab  Thermoforming Finishing			Water Jet Prod. Eng. Coor. Rec/Store/Packaging			Engineering . Quality .
NCR No					_ work Order Opdate[			Large Fab Composite	<u>-</u>		Supplie		
Root Cause	D	ate Ste	ер (	Qty De	escription of work order update or Non-conformance		Initial hief Eng	Action Description		Sign & Date	Verificatio	on	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved			,			FAU	LT CATEG	GORY					
Landi	ng Gear				General								
	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped. Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend				Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled Misread Offset			Over/Under tolerance Part Incorrect Part Lost/Missing Part Moved Positioned Wrong			Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	Torque Wayes in Extrusion Drawing					1	Out of C	alibration					

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

July-19-12 11:42:47 AM

Work Order ID: 87941 Parent Item:

D350-636-011 Parent Item Name: Skidtube LH \*87941\* \*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/08/2012

Start Qty: 1.00

Required Qty: 1.00

AN8C35A Purchased No 230 53.0000 Each \*AN8C35A\* \*\* M 12/08/14 Location Loc Qty Loc Code FP002 52 115960 118286 50 121275 ST346 114442 115188 115960 D3793-1 31.0000 Manufactured No 230 Each Al 12/08/14 \*D3793-1\* \*\* Wearshoe Loc Qty Location Loc Code FP001 31 82171 83393 83903 13 87273 12 D3488-041 Manufactured 230 25.0000 No Each \*\* Blade Fitting Assembly, LH Location Loc Qty Loc Code FP001 85807 FP002 17 83407 10

85733

NCR:	Yes	/ No				<b>WORK ORDER NON-</b>	CO	NFORM	<u>.</u>				
	_								<u>-</u>		QA Closed:	Date	e:
Work Ord	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	•
Part I	_ No					Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstube  Machining Small Fab  Thermoforming Finishing  Large Fab Composite			-1	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering . Quality Other
Root		· · · · · · · · · · · · · · · · · · ·			Descri	otion of work order update		Initial	Ac	tion	Sign &		
Cause		Date	Step	Qty	C	or Non-conformance	Cr	nief Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved													
1							AUI	LT CATE	GORY				
Landi	ng Gear  Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend				General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled Misread Offset			Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct issing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other	
	Torque Waves in Extrusion					Drawing		Out of C	Calibration				

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

July-19-12 11:42:47 AM

Work Order ID: 87941

Parent Item:

D350-636-011

Parent Item Name: Skidtube LH

\*87941\*

\*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/08/2012

Start Qty: 1.00

Required Qty: 1.00

D3794-3 \*D3794-3\*

Manufactured

Purchased

122204

230

Each 38.0000

Dl 12/08/14

	<b>Location</b>	Loc	e Qty	Loc Code		
	FP		12			
	83396		12			Y\
	FP002		26			
	74530		2			
	86243		24			
No		230	Each	76.0000	4	4

50

AN6C44A \*AN6C44A\*

Loc Qty Loc Code Location FG 2 2 103964 ST343 74 121013 11 121440 13

\*\* Il 80 121 08 114

July-19-12 11:42:47 AM

**Shop Packet Print** 

Page 7

											DQA:	Date:	
NCR:	Yes	/ No				<b>WORK ORDER NON-</b>	CO	NFORM			•		
_						<u>.</u>					QA Closed:	Date:	
Work Ord	or:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	•
WOIK OIG	ei.				·	Rework		Skid-tube Crosstube			Water Jet	Engineering .	
Part	Nο					Scrap	$\dashv$	4	Machining	Small Fab	Pro	d. Eng. Coor.	Quality
						Use-as-is	1	•	noforming	Finishing	4	re/Packaging	Other
NCR	No.					Work Order Update	1	1	Large Fab	Composite	1	Supplier	
													-
Root					Descri	ption of work order update		Initial	Ac	tion	Sign &		
Cause		Date	Step	Qty	(	or Non-conformance	Cł	nief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data	L			!									
Equip/Tooling	L						1						
Operator													
Material	L												
Setup	<u> </u>												
Other													
Process													
Supplier	L												
Training	<u> </u>							•					
Unapproved	<u> </u>			<u> </u>						.,			
							AUI	LT CATE	GORY				
Landi		1			_	General	_	1		<u></u>	7	<b></b>	٦ .
	<u> </u>	Bending			<u> </u>	Bend		Grain			Ovalized	<u> </u>	Pressure/Forced
	<u> </u>	Centre No	ot Concer	ntric to	o/s	BOM/Route	_	Hardwa		<b></b>	Over/Under	<b></b>	Temperature/Cure
	<u> </u>	Cracks			<u> </u>	Broken/Damaged		4 `	on Incomplete	<u> </u>	Part Incorred	<del></del>	Weld
	Crushed/Crimped.					Burrs	$\perp$	-	ions Incomplete/	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	<u> </u>	Cuffs				Contamination	$\vdash$	Mainte		<u> </u>	Part Moved		
	Ι	Heat Trea				Countersink	<u></u>	Mislabe		ļ	Positioned V		7
	1	Inspection Strip in Tube Cut Too Short						Misread	1	1	Power Loss/	Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

July-19-12 11:42:47 AM

Work Order ID: 87941

D350-636-011

Parent Item Name: Skidtube LH

Parent Item:

\*87941\*

\*D350-636-011\*

**Start Date:** 19/07/2012

Required Date: 02/08/2012

Start Qty: 1.00

Required Qty: 1.00

MS21083C8 Purchased No 230 Each 72.0000 \*MS21083C8\* 12/08/14

Location	<u>on</u>	Lo	<u>e Oty</u>	Loc Code				
304			17					
	121185		14					
	121349		3			With the second		
FP002			1					
	115884		1					
ST303			4					
	115884		0					
	118077		1					
	119309		2					
	119638		1					
ST321			50					
	122141		50			X		
		230	Each	15.0000	1	1		
					**	Hl	12/08/11	

\*D3536-25\* Gasket

D3536-25

Washer

D3631-1 Manufactured

Manufactured

No

Location Loc Qty Loc Code FP 15 83900 15 230 Each 227.0000

Location Loc Oty Loc Code FG 212 81874 2 83588 210 ST072 15 68062 2 75548 13

NCR:	Yes / No				WORK ORDER NON-	COI	<b>NFORI</b>	MANCE / UPI	DATE			•	
										QA Closed:	Date	:	
Work Orde	er:				DISPOSITION			AGAINST DEPARTMENT/PROCESS  Skid-tube Crosstube Water Jet Engineering					
Part N		· · · · · · · · · · · · · · · · · · ·			Scrap Use-as-is Work Order Update	Use-as-is Thermoforming Finishing			Small Fab	Pro Rec/Stor	Engineering . Quality Other		
		T	T							,   G: 0		<del></del>	
Root					ption of work order update		nitial	Acti		Sign &			
Cause	Date	Step	Qty		or Non-conformance	Ch	ief Eng	Descr	iption	Date	Verification	QC Inspector	
Doc/Data	_												
Equip/Tooling													
Operator													
Material												•	
Setup	_	1									:		
Other													
Process													
Supplier	-												
Training Unapproved	-						·						
Oliapproved 1	1	1	<u> </u>			Δ111	T CATE	GORY		<u> </u>			
Landir	ng Gear				General	AUL	CATE	3011					
	Bending			Г	Bend		Grain			Ovalized	Г	Pressure/Forced	
Ì	Centre N	ot Conce	ntric to (	)/S  -	BOM/Route	$\vdash$	Hardwa	re		Over/Under	tolerance	Temperature/Cure	
ļ	Cracks				Broken/Damaged	-		on Incomplete		Part Incorred	<b>—</b>	Weld	
ŀ	Crushed/	Crimped.			Burrs		,	ions Incomplete/U	Inclear	Part Lost/Mi	<u> </u>	Wrong Stock Pulled	
Ī	Cuffs	•			Contamination	$\vdash$	Mainte	•		Part Moved	Ü	_	
ŀ	Heat Trea	at			Countersink	-	Mislabe			Positioned V	Vrong		
ļ-	Inspectio	n Strip in	Tube	<del> </del>	Cut Too Short	H	Misread	I		Power Loss/	_	Other	
ļ	Ripples in	•			Drill Holes	-	Offset		<u> </u>	•			
ľ	Torque Waves in Extrusion				Drawing	П	Out of C	Calibration					

Out of Sequence

Outside Dimensions

DQA:

Date: \_\_

Turning Sequence

Wave/Twist in Tube

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

July-19-12 11:42:47 AM

Work Order ID: 87941

D350-636-011

Parent Item Name: Skidtube LH

\*87941\*

\*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3791-1

Parent Item:

Manufactured

Each

230

19.0000

Loc Code

17/08/14

\*D3791-1\*

Wearplate

Location Loc Qty FP002 19 62239 2 83392 83902 11 230 Each

38 21.0000

AN960C10L

Purchased

No

No

1112063

(x38) 12 12 12 108 114

\*AN960C10I \* 🗸

washer

Manufactured No ST 107534

83260

Location

21 21 230 Each

10

Loc Qty

206.0000

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Loc Code

41 12/08/14

Bushing

D2745

Location Loc Code Loc Qty FP 194 79518 85416 188 FP001 12 69529 76142

												DQA:	Da	ite:	•		
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFORM	MANCE / UP	DATE	•						
											С	(A Closed:	Da	te:			
Work Ord	or:					DISPOSITION				AGAINST DE	EP/	ARTMENT/	PROCESS		• *		
Work Ord	C1.				· · · ·	Rework Skid-tube Crosstube			٦		Water Jet		Engineering .				
Part l	No.					Scrap			Machining	Small Fab		Prod	d. Eng. Coor.		Quality		
						Use-as-is	]	•	noforming	Finishing	]	Rec/Stor	e/Packaging		Other		
NCR I	NCR No.					Work Order Update	_		Large Fab	Composite	_		Supplier		. 📙		
Root					Descri	ption of work order update		Initial	Act	tion		Sign &					
Cause		Date	Step	Qty	C	or Non-conformance	Cł	nief Eng	Desc	ription		Date	Verification	n	QC Inspector		
Doc/Data																	
Equip/Tooling	Ш																
Operator	Ш					•											
Material																	
Setup 4		,				ť											
Other	Ш																
Process	Ш																
Supplier	Щ																
Training	Ш																
Unapproved	Ш						1										
			r			F.	AUI	LT CATE	GORY								
Landi					<b></b>	General		1		_	_			_	1		
	${oldsymbol{ o}}$	Bending				Bend	<u> </u>	Grain		<u> </u>	-	Ovalized			Pressure/Forced		
	-	Centre Not Concentric to O/S				BOM/Route	$\vdash$	Hardwa		<u> </u>	-	ver/Under		<u> </u>	Temperature/Cure		
	Cracks					Broken/Damaged	_	4 '	on Incomplete		-	art Incorrec		<u>_</u>	Weld		
	Crushed/Crimped.					Burrs		4	ions Incomplete/l	Jnclear	-1	art Lost/Mi	ssing	L_	Wrong Stock Pulled		
	Cuffs					Contamination	<u></u>	Mainte		_	-	art Moved					
		Heat Trea			<u> </u>	Countersink	_	Mislabe		<u> </u>	_	ositioned W	-		1		
	-	Inspection	•	Tube	<u> </u>	Cut Too Short		Misread	l		J٩	ower Loss/S	Surge		Other		
	Ripples in Bend					Drill Holes		Offset									

Out of Calibration Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

July-19-12 11:42:47 AM

Work Order ID: 87941

Parent Item:

D350-636-011

Parent Item Name: Skidtube LH

\*87941\*

\*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/08/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

\*AN3C5A\*

Purchased

Manufactured

No

No

230

Each

1,335.000

Jel 12/08/14

<b>Location</b>	Loc Qty	Loc Code	
FP001	7		
115835	7		
ST350	1328		
116419	28		
117343	13		
117764	7		
117872	2		
119749	23		
120423	28		
121255	227		
121708	500		<del></del>
<u>12214</u> 1	500		<u> </u>
	230 Each	125.0000 3	3
		**	41/80/s1 El

D3537-1

Wearpad

Location Loc Qty Loc Code FP002 125 83254 83255 3 85457 22 85458 44

55

86238

											DQA:	Date	·
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFOR	MANCE / UP	DATE			k
			****								QA Closed:	Date	:
Work Ord	or.					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	•
Work Old	C1					Rework	7		Skid-tube	Crosstube	1	Water Jet	Engineering .
Part f	No.					Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
	-					Use-as-is	1	Thern	noforming	Finishing	Rec/Sto	re/Packaging	Other
NCR I	No		•	· · · · · · · · · · · · · · · · · · ·	<del></del>	Work Order Update	]		Large Fab	Composite	]	Supplier	
Root	T				Descri	otion of work order update		Initial	Act	tion	Sign &		
Cause		Date	Step	Qty	c	or Non-conformance	Ch	nief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling													
Operator													
Material													
Setup													
Other													
Process													
Supplier	Ш												
Training													
Unapproved													
						F	AUL	T CATE	GORY				
Landi	ng G	ear				General		•			-	<u></u>	<del></del> 1
		Bending				Bend	L	Grain			Ovalized		Pressure/Forced
	Centre Not Concentric to O/S				D/S	BOM/Route	L	Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Cracks					Broken/Damaged		4	on Incomplete		Part Incorre	ct	Weld
	Crushed/Crimped.					Burrs		4	ions Incomplete/l	Jnclear	Part Lost/M	issing	Wrong Stock Pulled
	$\square$	Cuffs				Contamination		Mainte	nance		Part Moved		
	∐¹	leat Trea	t			Countersink		Mislabe	led		Positioned V	Vrong	_
	ال	nspection	Strip in	Tube		Cut Too Short		Misread	l		Power Loss/	'Surge	Other
	Ripples in Bend					Drill Holes		Offset					<del>.</del>

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

#### **Picklist Print**

July-19-12 11:42:47 AM

Work Order ID: 87941

Parent Item:

D350-636-011

Parent Item Name: Skidtube LH

\*87941\*

No

No

Purchased

Purchased

\*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/08/2012

Start Qty: 1.00

Required Qty: 1.00

442.0000

751.0000

NAS1149C0832R

\*NAS1149C0832R\*

AN3C6A

Loc Code Loc Qty Location 296 200 122441 200

Each

ST297 242 242 114915

230 Each

230

\*\*

12/08/14

\*AN3C6A\* BOLT

Location Loc Qty Loc Code FP001

111982 ST351 750 111982 2 23 116419 116549 2 12 116704 117619 10 117688 117872 5 118422

13 21 3

112 46 500

119449

120423

120693

121682

122416

											DQA:	Date:					
NCR:	Yes	/ No				WORK ORDER NON-	COI	NFOR	MANCE / UPDATE			•					
											QA Closed:	Date:					
Work Ord	ler.					DISPOSITION			AGAI	NST DE	PARTMENT	/PROCESS					
Part NCR	No.				·	Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstube  Machining Small Fab  Thermoforming Finishing  Large Fab Composite			4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering . Quality Other				
Root					Descri	iption of work order update	1	Initial	Action		Sign &						
Cause		Date	Step	Qty	1	or Non-conformance	Cr	nief Eng	Description		Date	Verification	QC Inspector				
Doc/Data	Π																
Equip/Tooling																	
Operator							ł				}						
Material					]												
Setup			,	,		•											
Other																	
Process					-		ŀ		,								
Supplier							l										
Training																	
Unapproved																	
						<u> </u>	AUL	T CATE	GORY								
Landi	ng C	Sear			_	General					-		· -				
		Bending				Bend		Grain			Ovalized		Pressure/Forced				
	Centre Not Concentric to O/S					BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure				
	Cracks					Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld				
	Crushed/Crimped.					Burrs		Instruct	ions Incomplete/Unclear		Part Lost/M	ssing	Wrong Stock Pulled				
]	Cuffs					Contamination		Mainte	nance		Part Moved						

Mislabeled

Out of Calibration

Out of Sequence

Outside Dimensions

Misread

Offset

Positioned Wrong

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

#### **Picklist Print**

July-19-12 11:42:48 AM

Work Order ID: 87941

\*NAS1611-013\*

Parent Item:

D350-636-011

Parent Item Name: Skidtube LH

\*87941\*

\*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/08/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1611-013

Purchased

Manufactured

Manufactured

No

No

No

230

Each

264.0000

\*\*

4 1801si LK

12/08/14

<u>Location</u>	Loc Qty	Loc Code		
FP001	264			
116582	5			
117291	2			
117887	53			
119623	36			
121825	126		X &	
121826	42			
	230 Each	25.0000 1	1	
		**	Hl	12/00/11
				1908110

D3535-25

\*D3535-25\*

Location	Loc Qty	Loc Code
FP001	25	
62233	1	
81357	1	
<u>83387</u>	16	
83899	7	

230

D3794-1

\*D3794-1\*

Gasket

Location Loc Qty FP002 17

Each

17

Loc Code

17.0000

\*\*

NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORM	/IANCE / UPDATE					•
											QA Closed:		Date:	
Work Ord	er:					DISPOSITION			AGAINST	DE	PARTMENT,	/PROCESS		•
Part No						Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstube  Machining Small Fab  Thermoforming Finishing  Large Fab Composite			Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier			Engineering . Quality Other
Root					Descri	ption of work order update		Initial	Action		Sign &			
Cause		Date	Step	Qty	(	or Non-conformance	Ch	nief Eng	Description		Date	Verifica	tion	QC Inspector
Doc/Data	Ш								•					
Equip/Tooling	Ш													
Operator														
Material	Ш													
Setup	Ц													
Other	Ш												•	
Process	Ц	f												
Supplier	Ш													
Training	Ш							l						
Unapproved			<u> </u>						· · · · · · · · · · · · · · · · · · ·		1			
							AUL	T CATE	GORY					
Landi						General	_	<b>1</b>		_	٦			
	-	Bending	_			Bend	<u> </u>	Grain		$\vdash$	Ovalized		_	Pressure/Forced
	$\vdash$	Centre No	ot Concer	itric to (	D/S	BOM/Route	<u> </u>	Hardwa		<u> </u>	Over/Under		<u> </u>	Temperature/Cure
	$\vdash$	Cracks ·			<u> </u>	Broken/Damaged	$\vdash$	4 .	on Incomplete	$\vdash$	Part Incorre		-	Weld
	-	Crushed/0	Crimped.			Burrs	-	4	ons Incomplete/Unclear	L	Part Lost/Mi	ssing	L	Wrong Stock Pulled
		Cuffs			<u> </u>	Contamination	<u> </u>	Mainte	•	$\vdash$	Part Moved			
	${f H}$	Heat Trea				Countersink	$\vdash$	Mislabe		-	Positioned V	_	<del></del>	الما
		nspection	•	iube		Cut Too Short	$\vdash$	Misread			Power Loss/	Surge	<u></u>	Other
	F-1					Drill Holes	<u> </u>	Offset			<del></del>			
Torque Waves in Extrusion				Drawing		Out of C	alibration							

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

### **Picklist Print**

July-19-12 11:42:48 AM

Work Order ID: 87941

Parent Item:

MS21043-6

D350-636-011

Parent Item Name: Skidtube LH

Purchased

Manufactured

\*87941\*

\*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/08/2012

Start Qty: 1.00

Required Qty: 1.00

\*MS21043-6\*

558.0000 Il nostru

<b>Location</b>	Lo	c Qty	Loc Code			
, FG		20				
103693		20				
ST301		538				
117887		2				
118384		36				
120308		500			_X.(	
	250	Each	83.0000	2	2	U
				مادماد		- 1/

Each

D3493-1

Location Loc Qty Loc Code ST050 83 77573 82023 2 83097 80

230

	No				WORK ORDER NON-O	-	11 0111	NAMEL / OIL	<i>7</i> 716			
		_								QA Closed:	Date:	
er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	•
No					Rework Scrap		ı	Machining	Crosstube Small Fab	4		Engineering . Quality
No					Use-as-is Work Order Update	- I			Composite	Rec/Sto	re/Packaging Supplier	Other
				Descri	ption of work order update	i	nitial	Act	ion	Sign &		
D	ate	Step	Qty		or Non-conformance	Ch	ief Eng	Descr	iption	Date	Verification	QC Inspector
Ш												
Ш												
Щ							,					
	<u>.</u>					<u> </u>		2004				1
C						AUL	I CATE	JORY				
_					7		Cunin		Γ-	]		Pressure/Forced
	_	Concon	stric to 1		4	$\vdash$			-	-	talaranca	Temperature/Cure
$\vdash$		Concer	ונווכ נט י	<sup>0/3</sup>	4	$\vdash$			-	1 '	<del></del>	Weld
<del></del>		rimned		-	1	$\vdash$			Inclear		ļ	Wrong Stock Pulled
-		impeu.		<u> </u>		-		•	, icieai	4		Twiong stock runed
					4	$\vdash$			<del> </del>	4		
<b>⊢</b>			Tube	<u> </u>		$\mathbf{H}$						Other
						-			<b>L</b>	7. 22007		1
			xtrusior	n		-		alibration		·		
Turning Sequence					Finish		Out of S	equence				
	ng Gear Ben Crac Crus Cuff Hea Insp Ripp	ng Gear Bending Centre Not Cracks Crushed/Cr Cuffs Heat Treat Inspection Ripples in E	Date Step  Date Step  Date Step  Bending Centre Not Concer Cracks Crushed/Crimped. Cuffs Heat Treat Inspection Strip in Ripples in Bend Torque Waves in E	Date Step Qty  Date Step Qty  Bending Centre Not Concentric to the Cracks Crushed/Crimped. Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion	No.  No.  Date Step Qty  Descri  Date Step Qty  Control Date Step Descri  Control Date Step Descri  escri Descri	Rework Scrap Use-as-is Work Order Update  Date Step Qty Description of work order update or Non-conformance  Fing Gear General  Bending Bend Bend BoM/Route Cracks Broken/Damaged Cracks Broken/Damaged Crushed/Crimped Burrs Cuffs Contamination Cuffs Countersink Heat Treat Countersink Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Drawing	Rework Scrap Use-as-is Work Order Update  Date Step Qty Description of work order update or Non-conformance  FAUL  Bending Gear General  Bending Bend Centre Not Concentric to O/S BOM/Route Cracks Broken/Damaged Crushed/Crimped Burrs Cuffs Contamination Cuffs Contamination Heat Treat Countersink Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Drawing	Rework Scrap Use-as-is Work Order Update Unitial Chief Eng  Date Step Qty Description of work order update or Non-conformance Chief Eng  FAULT CATE  Gear General Bend Grain Hardwa Concentric to O/S BOM/Route Hardwa Inspection Strip in Tube Countersink Mislabe Inspection Strip in Tube Cut Too Short Misread Ripples in Bend Drawing Order Out of Counter Structure Counter St	Rework Scrap Use-as-is Work Order Update Use-as-is Work Order Update Use-as-is Use-as-	Rework Scrap Use-as-is Work Order Update Use-as-is Work Order Update Initial Action Description  Date Step Qty Description of work order update or Non-conformance Chief Eng Description  FAULT CATEGORY  Rework Scrap Machining Small Fab Thermoforming Finishing Large Fab Composite  Action Description  FAULT CATEGORY  Regear General Grain  Bending Gear General Grain  Centre Not Concentric to O/S BOM/Route Hardware  Cracks Broken/Damaged Instructions Incomplete  Cracks Broken/Damaged Instructions Incomplete  Crushed/Crimped. Burrs Instructions Incomplete/Unclear Maintenance  Cuffs Contamination Maintenance  Heat Treat Countersink Mislabeled Mislabeled Inspection Strip in Tube Cut Too Short Mislabeled	Part Part Category  Bend General  Counter Not Concentric to O/S  Gracks Broken/Damaged Instructions Incomplete Instructi	Processor

Outside Dimensions

DQA:

Date: \_\_\_

Wave/Twist in Tube

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

July-19-12 11:42:48 AM

Work Order ID: 87941

Parent Item:

D350-636-011

Parent Item Name: Skidtube LH

\*87941\*

\*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/08/2012

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

Purchased

No

No

250

Each

72.0000

\*MS21083C8\*

Location		Lo	c Oty	Loc Code		
304			17			
1	21185		14			
1.	21349		3			
FP002			1			
1	15884		1			
ST303			4			
1	15884		0			
1	18077		1			
1	19309		2			
1	19638		1			
ST321			50			
12	22141		50			
		250	Each	63.0000	2	2 ,
					**	11/6

AN8C21A

Location	Loc Oty	Loc Code
ST343	63	
118758	3	
121275	10	
122204	50	

NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE													
											QA Closed:	Date	e:
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	Part No					Rework Scrap Use-as-is Work Order Update	ap Machining Small Fab -is Thermoforming Finishing			4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering . Quality Other	
Root	1				Descri	ption of work order update	Initial Action			Sign &			
Cause		Date	Step	Qty	l .	or Non-conformance	J	nief Eng	Descrip		Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved			·			F	AUI	LT CATE	GORY				
Landii	ng G	iear				General							
	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend			Tube	Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled Misread Offset			Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ssing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other	
	Torque Waves in Extrusion					Drawing	1	Out of C	Calibration				

Out of Sequence

Outside Dimensions

Date:

DQA:

Turning Sequence

Wave/Twist in Tube

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

## Picklist Print

July-19-12 11:42:48 AM

Work Order ID: 87941

Parent Item:

D350-636-011

Parent Item Name: Skidtube LH

\*87941\*

\*D350-636-011\*

**Start Date:** 19/07/2012

**Required Date:** 02/08/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1515H3L

\*NAS1515H3I \*

Purchased

Manufactured

Manufactured

No

230

Each

307.0000

\*\*

Locatio	<u>n</u>	<u>Lo</u>	c Qty	Loc Code			
FG			40				
	102472		40				_
ST277			267				_
	118686		3				
	120360		11				_
	121556		53				_
	122151		200				
		250	Each	22.0000		1	
					**		

D2741

Location Loc Qty ST -10 ST466 32 71856 83135 21

250 Each 10.0000

Loc Code

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Location Loc Oty Loc Code ST053 10 83319 10

Spacer

July-19-12 11:42:48 AM

**Shop Packet Print** 

Page 15

											DQA:	Da	te:	4
NCR:	Yes	/ No				WORK ORDER NON-O	COI	NFOR	MANCE / UPD	DATE				
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Part I	No.					Rework Scrap Use-as-is		Thern	Skid-tube Machining noforming	Crosstube Small Fab Finishing	4	Water Jet od. Eng. Coor. re/Packaging		Engineering . Quality Other
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Cause		Date	Step	Qty	(	or Non-conformance	Cr	nief Eng	Descri	iption	Date	Verificatio	n	QC Inspector
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		Bending				Bend		Grain			Ovalized			Pressure/Forced
	Centre Not Concentric to O/S					BOM/Route		Hardwa	re		Over/Under	tolerance		Temperature/Cure
	Cracks					Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct		Weld
	Crushed/Crimped.					Burrs		Instruct	ions Incomplete/U	Inclear	Part Lost/M	issing		Wrong Stock Pulled
	Cuffs					Contamination		Mainte	•		Part Moved			•
	Heat Treat					Countersink	Mislabeled			Positioned \	<b>N</b> rong			
	Inspection Strip in Tube					Cut Too Short	Misread				Power Loss,	-		Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

QTY QTY QTY QTY -041 PART NUMBER DESCRIPTION 042 043 X D2750-041 350 SKIDTUBE ASSEMBLY, LH D2750-042 350 SKIDTUBE ASSEMBLY, RH D2750-043 350 SKIDTUBE ASSEMBLY, LH X D2750-044 350 SKIDTUBE ASSEMBLY. RH D2739 WEB 8 D2743 SPACER 8 8 1 D2744 CAP 1 8 D2745 BUS! IING 8 8 8 D2750-1 SKIDTUBE WELDMENT, LH D2750-2 SKIDTUBE WELDMENT, RH SKIDTUBE WELDMENT, LH D2750-3 D2750-4 SKIDTUBE WELDMENT, RH D3488-041 BLADE FITTING, LH D3488-042 BLADE FITTING, RH 4 4 4 D3490-1 SPACER 4 4 4 D3490-3 SPACER 4 D3490-5 SPACER PLUG ASSEMBLY 8 8 8 8 D3492-041 D3492-043 PLUG ASSEMBLY 8 8 D3492-045 PLUG ASSEMBLY 8 1 1 D3535-25 WEARSHOE 1 D3536-25 GASKET 1 A 3 D3537-1 WEARPAD 3 3 3 8 8 8 D3631-1 WASHER 8 WEARPLATE 1 D3791-1 1 D3793-1 WEARSHOE 1 1 D3793-3 WEARSHOE 1 Æ 1 1 1 D3794-1 GASKET D3794-3 GASKET INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225) 38 ALS4-1032-225 38 38 Æ-34 34 AN3C5A BOLT 34 34 4 4 4 AN3C6A BOLT 4 4 4 AN6C44A BOLT 1 1 1 AN8C35A BOLT 38 38 38 38 AN960C10L WASHER 1 1 1 1 AN960C816L WASHER 4 4 4 4 MS21043-6 NUT 1 1 MS21083C8 NUT 4 4 4 NAS1515H3L WASHER

**GENERAL NOTES:** 

8

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С

R

MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).

... ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB. POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.5 BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).

TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED UNITS: INCHES UNLESS OTHERWISE NOTED

BREAK SHARP EDGES: N/A IDENTIFICATION: N/A WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS

WELD PER DART QSI 004

WELD PER DAR! QSI 004
INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES (Ø0.297) FOR WEARSHOE INSERTS
FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI 9) 10)

SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF

POWDER COATING WITH MEX DEGREASER.
SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY RETURN TO **ENGINEERING** UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE WORK ORDER MLJ 12/07/19

F	INCORPORATE DSI 9413: DTY (3) D337-1 WAS OTY (5) (ZN C8-1); D3791-1/-3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); D3794-11 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL), WEARSHOE HARDWARE OTY UPDATED (ZN B8-1); D348B-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON REF. NCR 08-043	РΗ	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES ADD D3631-1; REMOVE QTY (38) NAS1515H3L, REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	СВ	07.05.17
D	ADD HOLES AND SHACERS FOR APICAL FLOATS; INCORPORATE DEC 9133/9157	PН	06.01.05
С	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
В	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
Α	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE

NEV. 1		DESCRIPTION	01	DATE			
DESIGN	PG,	DART AEROSPACE	USA	INC.			
DRAWN	RH	PORT HADLOCK,					
CHECKED	1,15	DRAWING NO.		REV. F			
MFG. APPR.	MG	D2750	5	SHEET 1 OF 11			
APPROVED	IM	TITLE		SCALE			
DE APPR.	-	☐ 350 SKIDTUBE ASSEN	ИBLY	NTS			
DATE 08.	07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC.  THE DOCUMENT B PREMIT AND COMPRIMEN, MODE SUPPLIED ON THE EXPRESS CONSTITUTION THAT IT IS NOT TO BE USED THE ANY PURPOSE OF COMMENDENTED TO ANY PURPOSE OF COMMENDENTED TO ANY PURPOSE OF MITHOUS.					

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	Cracks					Broken/Damaged		4 '	on Incomplete	_	Part Incorre	ct	Weld
	Crushed/Crimped.					Burrs		Instructi	ions Incomplete/L	Inclear	Part Lost/M	ssing	Wrong Stock Pulled
	Cuffs					Contamination		Mainte	nance		Part Moved		
	Hea	t Treat				Countersink	L	Mislabe	led		Positioned V	Vrong	<b>-</b> 1
	Insp	ection :	Strip in	Tube		Cut Too Short		Misread			Power Loss/	Surge	Other
	Ripples in Bend				j	Drill Holes		Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

D2750-041 350 SKIDTUBE ASSEMBLY, LH D2750-042 350 SKIDTUBE ASSEMBLY, RH DART AEROSPACE USA, INC. PORT HADLOCK, WA DESIGN DRAWN DRAWING NO. D2750 CHECKED REV. F MFG. APPR. SHEET 2 OF 11 TITLE APPROVED SCALE 350 SKIDTUBE ASSEMBLY NT:

COPYRIGHT 0 1998 BY DART ARROSPACE USA, INC.

HIS OCCUPY OF CONTROL OF CONTROL AND SUPPLY OF THE CONTROL OF CONTROL DE APPR. NTS DATE 08.07.16

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Part I	No					Rework Skid-tube Crosstube Machining Small Fab Use-as-is Thermoforming Finishing Work Order Update Large Fab Composite				Small Fab Finishing	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering . Quality Other
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Cause		Date	Step	Qty	C	or Non-conformance	Ch	nief Eng	Descri	ption	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved													
							AUL	T CATE	GORY				
Landii	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped.				o/s	General			Grain Hardware Inspection Incomplete			tolerance ct	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled
	Cuffs Heat Treat					Contamination Countersink	Instructions Incomplete/Unclear  Maintenance  Mislabeled			Part Moved Positioned \	Vrong	7	
	Inspection Strip in Tube Ripples in Bend				<u> </u>	Cut Too Short Drill Holes	MisreadOffset			Power Loss/	Surge	Other	

Out of Calibration

Out of Sequence

Outside Dimensions

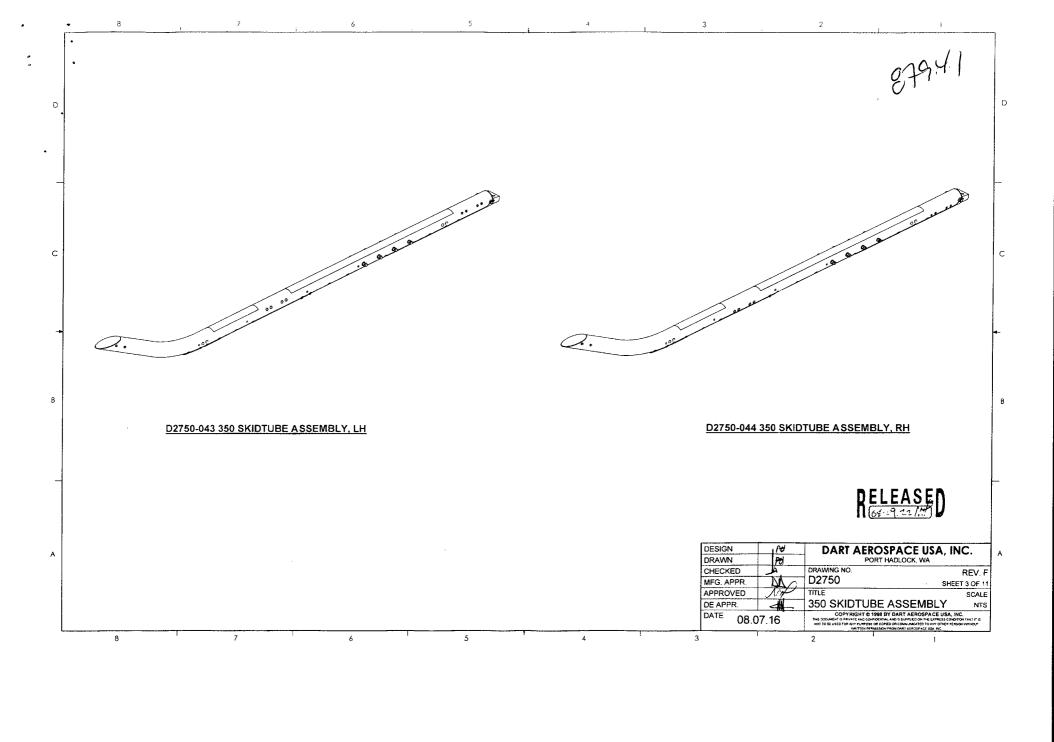
Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish



NCR:	NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE												
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	Crushed/Crimped.					Burrs		Instructi	ions Incomplete,	/Unclear	Part Lost/M	issing	Wrong Stock Pulled
	Cuffs					Contamination		Mainte	nance		Part Moved	<del></del>	<del></del>
	Heat Treat				Countersink		Mislabe	led		Positioned V	Vrong _	_	
	Inspection Strip in Tube				Cut Too Short		] Misread	l		Power Loss/	Surge	Other	
	Ripples in Bend					Drill Holes		Offset		-			
	Torque Waves in Extrusion					Drawing		Out of C	alibration				

Out of Sequence

Outside Dimensions

DQA:

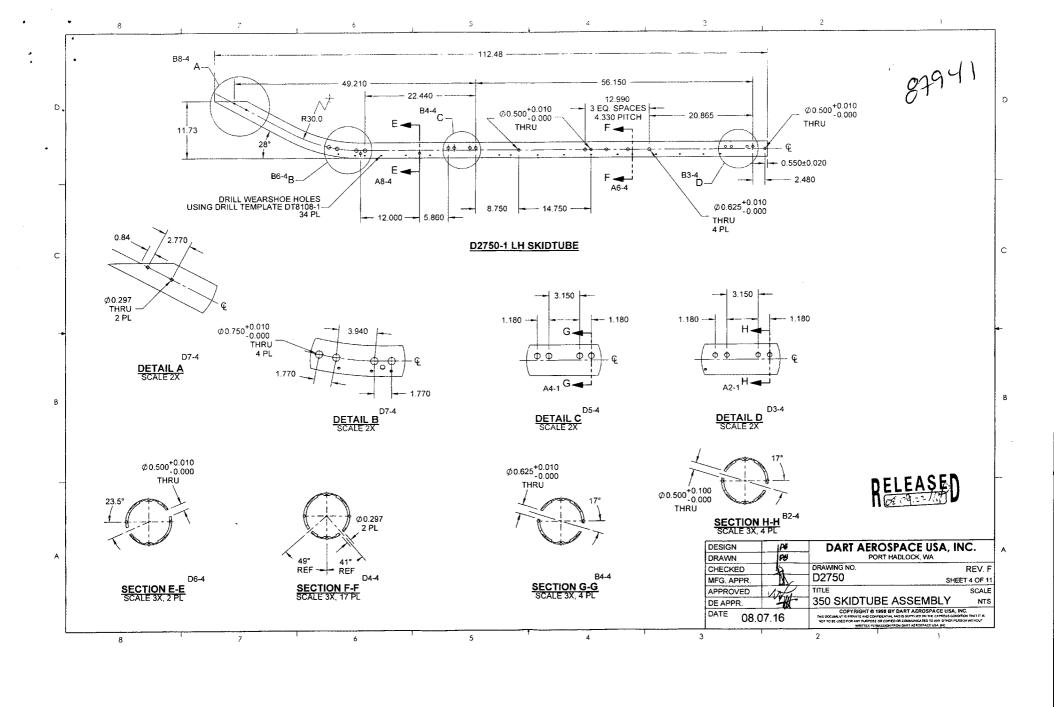
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Turning Sequence

Wave/Twist in Tube

Finish

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NCR:	Yes	/ No				WORK ORDER NON-O	100	NFORI	MANCE / UPD	DATE			•	
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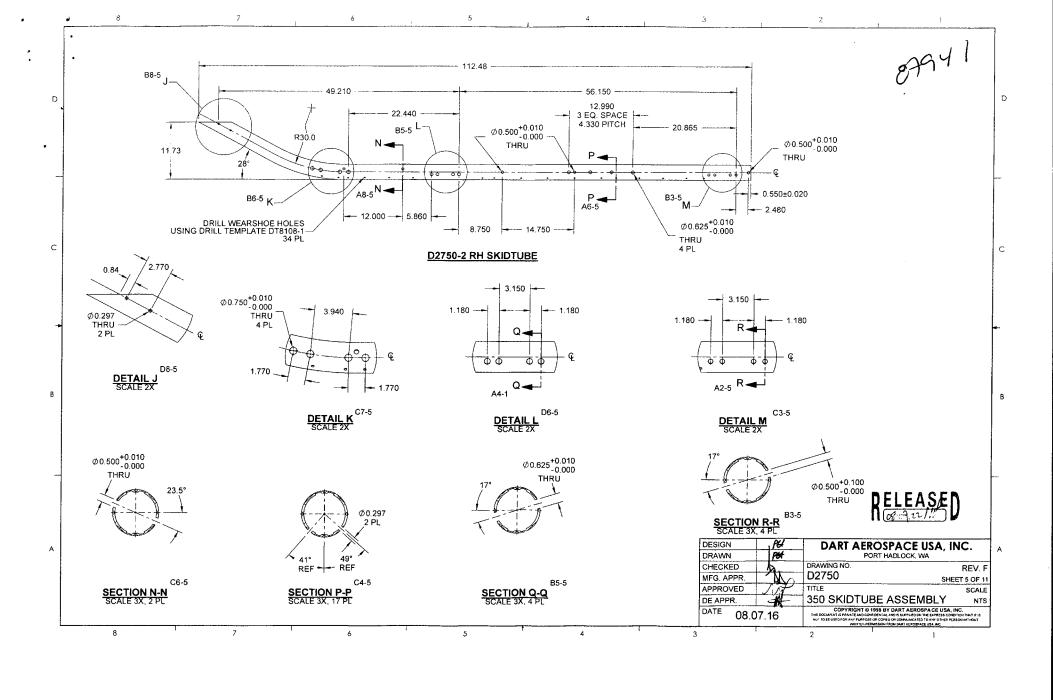
Outside Dimensions

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Wave/Twist in Tube

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		Inspection Strip in Tube				Cut Too Short	Misread				Power	r Loss/	'Surge	1	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

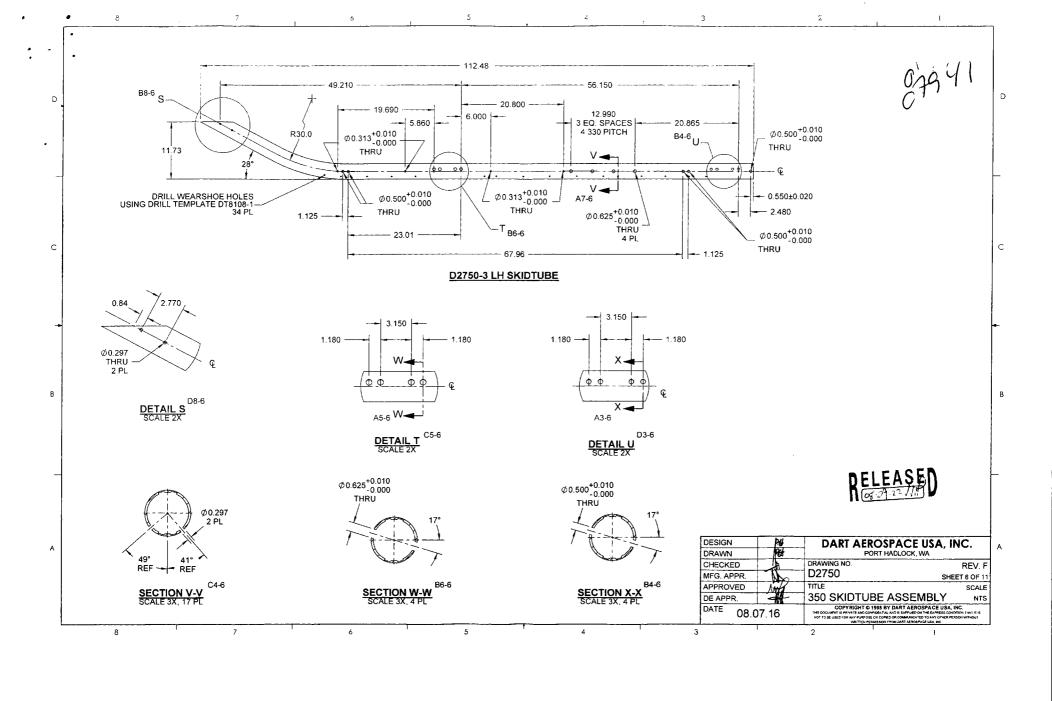
Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish



										DQA:	Date:	
NCR:	Yes / No				WORK ORDER NON-C	100	NFOR	MANCE / UPDA	ATE	·		
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	<del></del>			BOM/Route	$\vdash$	Hardwa			Over/Under	<del> </del>	Temperature/Cure Weld	
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Misread

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

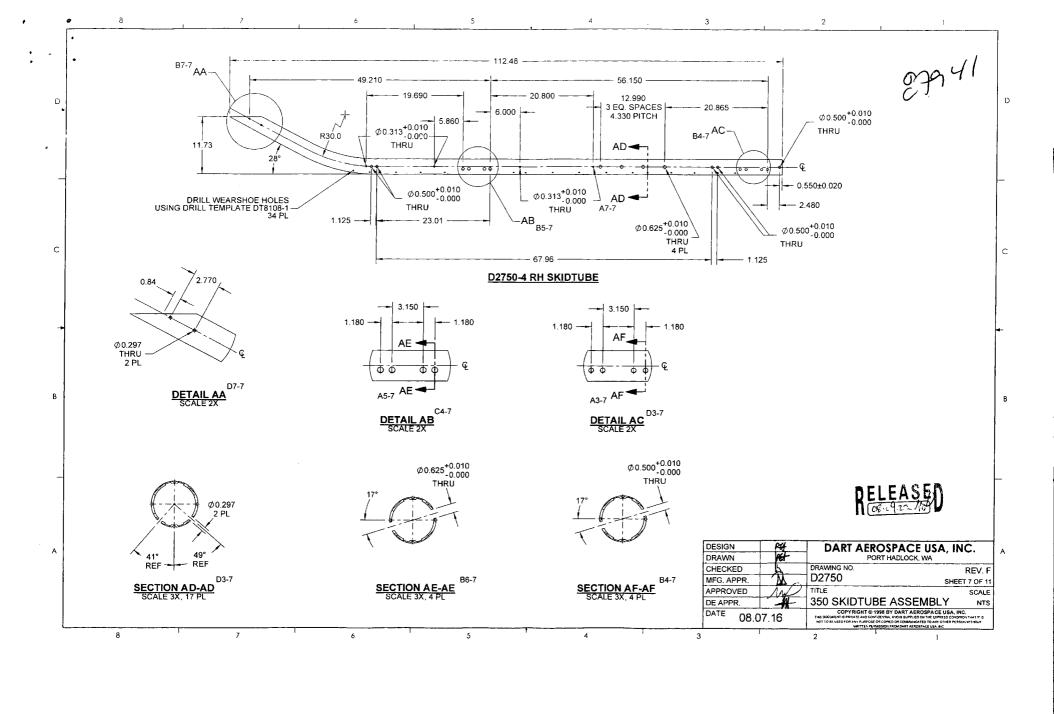
Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish



										DQA:	Date	:
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Equip/Tooling	Ш							,				
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Material												
Setup	Ш											
Other	Ш											
Process												
Supplier												
Training	Ш.			•								
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					F	AUL	T CATE	GORY				
Landi	ng Gear				General					_		_
	Bending				Bend		Grain		L	Ovalized		Pressure/Forced
	Centre Not Concentric to O/S				BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Cracks			Broken/Damaged	L	Inspecti	on Incomplete	L	Part Incorre	ct	Weld	
	Crushed/Crimped.				Burrs	Instructions Incomplete/Unclear				Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs				Contamination	Maintenance				Part Moved		

Mislabeled

Out of Calibration

Out of Sequence

Outside Dimensions

Misread

Offset

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Positioned Wrong

Power Loss/Surge

Other

Turning Sequence

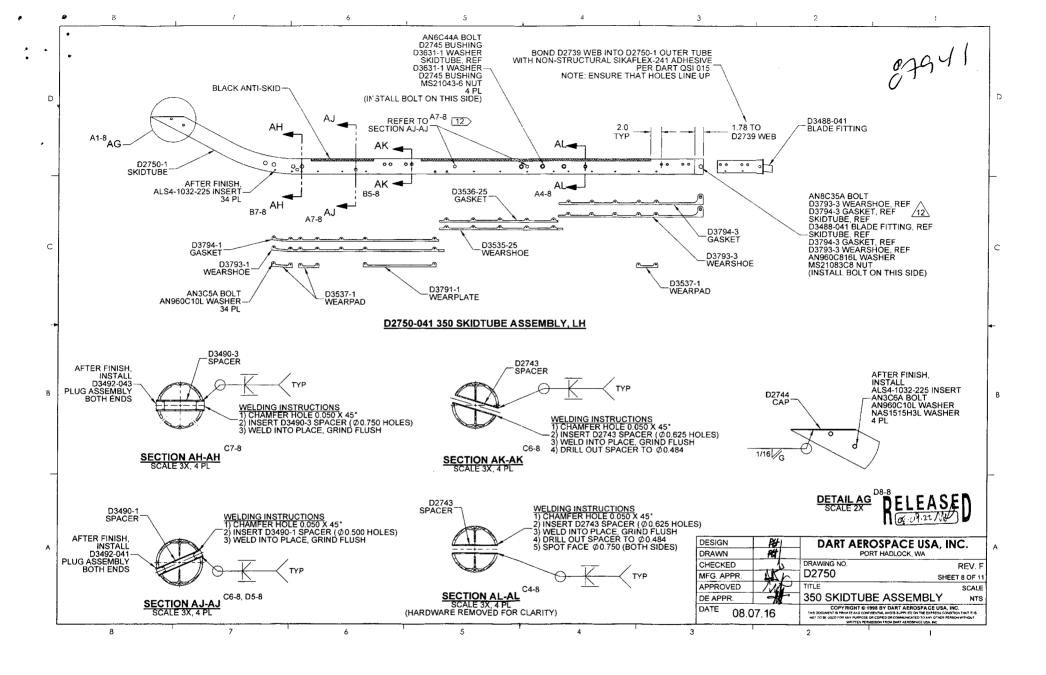
Wave/Twist in Tube

Ripples in Bend

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion



										DQA:	Date:	
NCR:	Yes / I	No			<b>WORK ORDER NON-</b>	CO	NFOR	MANCE / UP	DATE		<del></del>	•
										QA Closed:	Date:	
Work Ord	or				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	•
WOIK OIG	eı				Rework	7	İ	Skid-tube	Crosstube	1	Water Jet	Engineering
Part f	No				Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
					Use-as-is	]		noforming	Finishing	Rec/Sto	re/Packaging	Other
NCR I	No				Work Order Update	ا		Large Fab	Composite	]	Supplier	
Root				Descri	ption of work order update	T	Initial	Act	ion	Sign &		
Cause	Da	e Step	Qty	C	or Non-conformance	Cł	nief Eng	Desci	ription	Date	Verification	QC Inspector
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					F	AUL	LT CATE	GORY				
Landi	ng Gear				General		-		سسسو	-		7
	Bendi	ng			Bend	_	Grain		L	Ovalized		Pressure/Forced
	Centre Not Concentric to O/S				BOM/Route		Hardwa	re	L	Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorred	ct	Weld
j	Crushed/Crimped.				Burrs		Instructi	ions Incomplete/U	Jnclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs				Contamination		Mainte			Part Moved		
į	Heat	reat			Countersink		Mislabe	led		Positioned Wrong		=
	Inspe	tion Strip ii	n Tube		Cut Too Short	Misread				Power Loss/	Surge	Other
	Ripple	s in Bend			Drill Holes	Offset						

Out of Calibration

Out of Sequence

Outside Dimensions

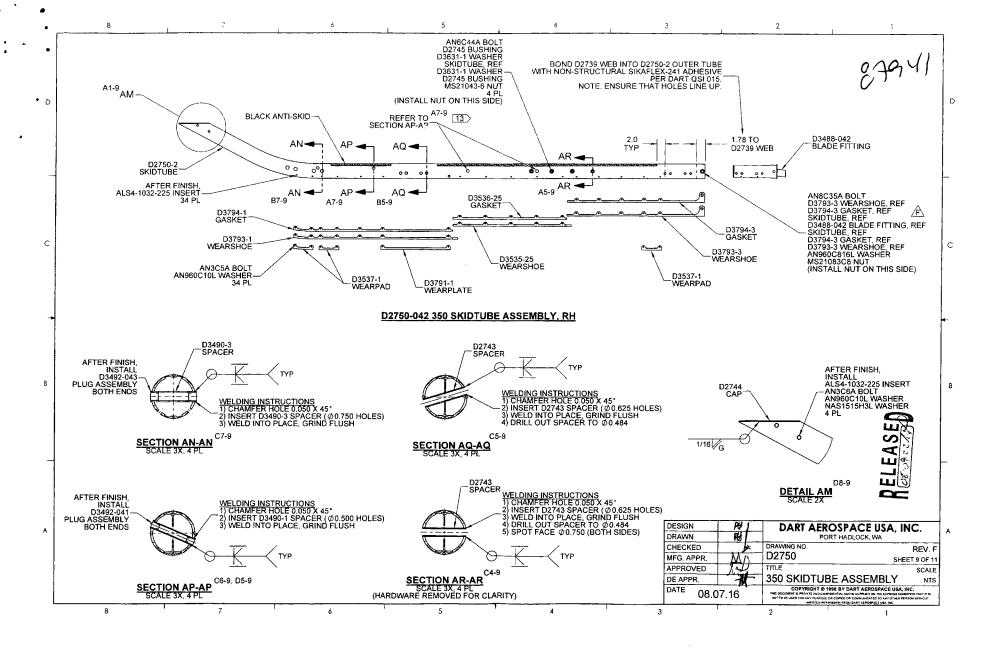
Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish



										DQA:	Date:	•
NCR:	Yes / No				WORK ORDER NON-	COL	VFOR	MANCE / UPDAT				•
										QA Closed:	Date:	
Work Ord	or:				DISPOSITION			A	AGAINST DEI	PARTMENT	PROCESS	•
VVOIKOIU	ei				Rework	7		Skid-tube Ci	rosstube		Water Jet	Engineering .
Part No.				Scrap	1	١,	<del>  </del>	mall Fab	Pro	d. Eng. Coor.	Quality	
l	10.				Use-as-is	1	ļ.	~ <del></del>	Finishing		e/Packaging	Other
NCR I	No.				Work Order Update	1		~⊢—	mposite		Supplier	
						-			<u>'</u>			· —
Root				Descri	ption of work order update		nitial	Action		Sign &		
Cause	Date	Step	Qty	,	or Non-conformance	Ch	ief Eng	Descriptio	on	Date	Verification	QC Inspector
Doc/Data												
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	Bending				Bend	$\vdash$	Grain		<b>  </b>	Ovalized		Pressure/Forced
	Centre Not Concentric to O/S				BOM/Route	$\vdash$	Hardwa		<del></del>	Over/Under		Temperature/Cure
	Cracks				Broken/Damaged	-		on Incomplete	$\vdash$	Part Incorred		Weld
	<b>—</b>	/Crimped			Burrs	$\vdash$	l .	ions Incomplete/Uncle	<del></del>	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs			<u> </u>	Contamination	$\vdash$	Mainte			Part Moved		
	Heat Tre	at		1	Countersink	1 1	Mislabe	led		Positioned V	/rong	

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Other

Power Loss/Surge

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

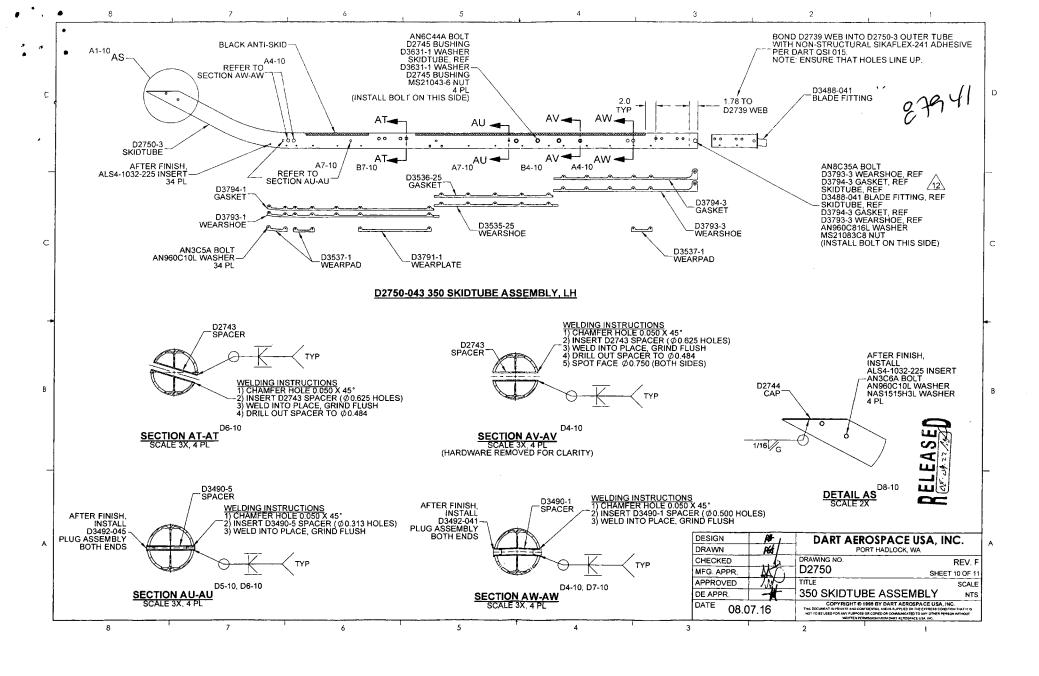
Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish



											DQA:	Date:	•
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFORM	MANCE / UPD/	ATE			• • •
											QA Closed:	Date:	
Mark Order						DISPOSITION			,				
Work Ord	Work Order:					Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstube			Water Jet Prod. Eng. Coor.		Engineering . Quality
Part	Part No.				Machining Small Fab Thermoforming Finishing Large Fab Composite								
NCR No.								<del></del>		Rec/Store/Packaging Supplier		Other	
Root					Descri	ption of work order update	T	Initial	Actio	n	Sign &		
Cause		Date	Step	Qty	(	or Non-conformance	Ch	nief Eng	Descrip	tion	Date	Verification	QC Inspector
Doc/Data	Ш												
Equip/Tooling													
Operator							1						
Material													
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Other							1						
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Supplier	П										:		
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Landi	ng G	ear				General		_			•	-	<b>-</b>
		Bending				Bend		Grain			Ovalized		Pressure/Forced
	Centre Not Concentric to O/S				o/s	BOM/Route	L	Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Cracks					Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld
	Crushed/Crimped.					Burrs		Instructions Incomplete/Unclear			Part Lost/M	issing	Wrong Stock Pulled
	П	Cuffs				Contamination		Mainte	nance		Part Moved	<del> </del>	
	Пı	Heat Trea	t			Countersink		Mislabe	led		Positioned V	Vrong	_
!	Inspection Strip in Tube				Cut Too Short	Г	Misread	I		Power Loss/	Surge	Other	

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

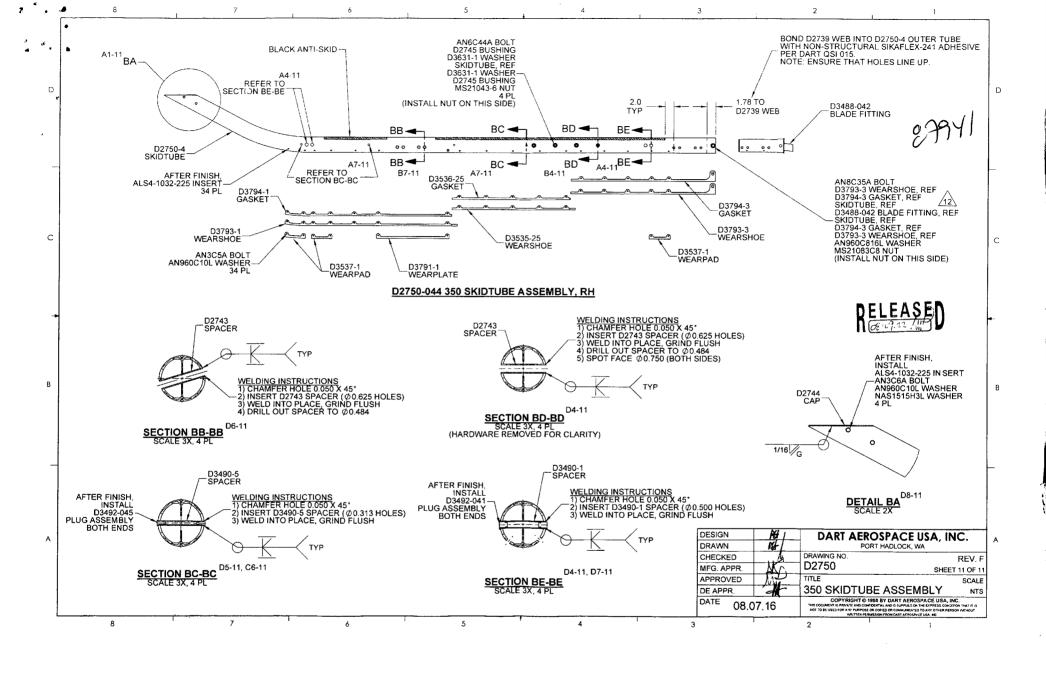
Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish



										DQA:	Date:	
NCR:	Yes / No				<b>WORK ORDER NON-</b>	CO	NFORI	MANCE / UPDATE				
										QA Closed:	Date:	
Work Ord	lor:				DISPOSITION			AG	SAINST DE	PARTMENT	/PROCESS	•
WOLK OLD	·				Rework	٦		Skid-tube Cro	sstube		Water Jet	Engineering .
Part	No.				Scrap	1		<b>——</b>	all Fab	Pro	d. Eng. Coor.	Quality
				<del></del>	Use-as-is	7	1	<b>ү</b> Ш	nishing	l .	re/Packaging	Other
NCR	No.				Work Order Update	7		Large Fab Com	posite		Supplier	
										·		•
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Cause	Date	Step	Qty	(	or Non-conformance	Cł	nief Eng	Description	·	Date	Verification	QC Inspector
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Equip/Tooling					•			r				
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Lanui	Bending			Г	Bend	Г	Grain			Ovalized		Pressure/Forced
	Centre N	ot Conce	ntric to 1	<sub>2/5</sub>	BOM/Route	-	Hardwa	re	-	Over/Under	tolerance	Temperature/Cure
	Cracks	or conce	Title to	" <del> </del>	Broken/Damaged	Inspection Incomplete			-		Weld	
	Crushed/	Crimped		<u> </u>	Burrs	$\vdash$	<b>1</b> '	ions Incomplete/Unclear		Part Lost/Mi	- <del></del>	Wrong Stock Pulled
į	Cuffs	p = 0.		<u> </u>	Contamination	十	Mainte	·		Part Moved	J	, , ,
	Heat Trea	et			Countersink		Mislabe		<del> </del>	Positioned V	Vrong 🧽	

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Other

Power Loss/Surge

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

NO. 300

# AWS D17.1.2001 QUALIFICATION TEST RECORD

Name:	Barday Elliott	
Job #:	87941	
Part #:	1350-636-011	
Description:_	Seid	
<b>Welding Proc</b>	cess: Tig[-\ Mig[]	
Base materiel	1: Alun.	
Current: AC	[ Y DC[ ]	

# TEST REQUIREMENTS AND RESULTS

Visual:	pass[1]	fail[ ]
<b>Incomplete Penetration:</b>	pass[/]	fail[ ]
<b>Incomplete Fusion:</b>	pass[]	fail[ ]
Cracks:	pass[/]	fail[ ]
Overlap (cold lap)	pass[']	fail[ ]
Undercut:	pass[]	fail[
Pin holes:	pass[ ]	fail[ ]
Porosity (surface):	pass[/	fail[]
Coloration:	pass[]	fail[]
Burn through:	pass[ ]	fail[ ]

Qualifier Devil Acus Date of Test Coupon 12.07.26

Welder Box Coupon 12-07-26

The above named individual is qualified in accordance with AWS D17.1.2001 to weld